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FORM PTO - 1449

SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT

ATTORNEY DOCKET NO.: NNM-001 (7596/1)
 APPLICANTS: Mayes and Tyler
 SERIAL NO.: 09/308,166
 FILING DATE: June 25, 1999
 GROUP: 2754

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U.S. PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
<i>Sur</i>	A1	3,966,510	06/29/76	Aonuma et al.			08/15/74
	A2	4,096,040	06/20/78	Grosko			03/25/77
	A3	4,269,826	05/26/81	Zimmermann et al.			12/12/77
	A4	4,672,040	06/09/87	Josephson			06/28/85
	A5	4,735,796	04/05/88	Gordon			05/07/85
	A6	4,778,671	10/18/88	Wusirika			07/14/86
	A7	4,814,098	03/21/89	Inada et al.			08/28/87
	A8	5,043,101	08/27/91	Gordon			03/29/88
	A9	5,328,681	07/12/94	Kito et al.			01/17/92
	A10	5,358,722	10/25/94	Monzyk			01/25/93
	A11	5,437,892	08/01/95	Nagayama et al.			08/31/93
	A12	5,491,219	02/13/96	Mann			06/11/93
	A13	5,505,996	04/09/96	Nagayama			04/11/95
	A14	5,543,226	08/06/96	Bobrich et al.			12/18/92
	A15	5,547,748	08/20/96	Ruoff et al.			01/14/94
	A16	5,552,072	09/03/96	Arase et al.			02/17/94
<i>✓</i>	A17	5,552,229	09/03/96	Brodt et al.			09/29/94

FOREIGN PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG Y/N

OTHER ART, JOURNAL ARTICLES, ETC.

EXAM. INIT.	OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)

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EXAMINER *John R.*

DATE CONSIDERED 2-24-2001 JAN 08 2001

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SHEET 1 OF 2

FORM PTO - 1449		ATTORNEY DOCKET NO.: NNM-001 (7596/2)	
SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT		APPLICANTS: Mayes and Tyler	
MAY 07 2002 JC26 PATENT & TRADEMARK OFFICE		SERIAL NO.: 09/308,166	
		FILING DATE: June 25, 1999	
		GROUP: 2754	

U.S. PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
Q	A25	4,849,210	07/18/89	Widder			08/11/87
Q	A26	5,069,216	12/03/91	Groman <i>et al.</i>			09/19/89
Q	A27	5,338,617	08/16/94	Workinger <i>et al.</i>			11/30/92
Q	A28	5,512,332	04/30/96	Liberti <i>et al.</i>			04/22/94
Q	A29	5,690,903	11/25/97	Hainfeld			05/30/95
Q	A30	6,180,389 B1	11/30/01	Douglas			01/03/97

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EXAM. INIT.		DOCUMENT NUMBER	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG (Y/N)
Q	B2	8800060 A1	01/14/88	PCT				N	Y
Q	B3	0 525 199	02/03/93	EP				N	Y
Q	B4	9305818 A1	04/01/93	PCT				N	Y
Q	B5	0884739 A1	12/16/98	EP				N	Y
Q	B6	9946782 A2	09/16/99	PCT				N	Y

OTHER ART, JOURNAL ARTICLES, ETC.

EXAM. INIT.	OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)	
Q	C7	Harris "The Production of Paracrystalline Two-Dimensional Monolayers of Purified Protein Molecules," Micron, Pergamon Press Ltd., United Kingdom, Vol. 13, No. 2, pgs. 147-168 (1982)
Q	C8	Matsunaga "Synthesis of Nano-Scale Ultrafine Particles Using Biomolecules," Kagaku (Kyoto), Vol 46, ISS. 7, pg. 498 (1991)
Q	C9	Meldrum <i>et. al.</i> "Synthesis of Inorganic Nanophase Materials in Supramolecular Protein Cages," Nature, vol. 349, No. 21 (Feb. 1991)

EXAMINER *Edward R.*

DATE CONSIDERED 2-24-2004

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SHEET 2 OF 2

FORM PTO - 1449

SUPPLEMENTAL INFORMATION
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ATTORNEY DOCKET NO.: NNM-001 (7596/2)

APPLICANTS: Mayes and Tyler

SERIAL NO.: 09/308,166

FILING DATE: June 25, 1999

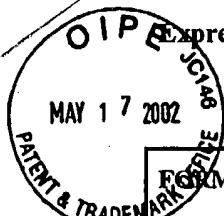
GROUP: 2754

OTHER ART, JOURNAL ARTICLES, ETC.

EXAM. INIT.	OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)	
RL	C10	Bidan <i>et al.</i> "New Nanocomposites Based on Tailor Dressed Magnetic Particles in a Poly(pyrrole Matrix" Advanced Materials, VCH Verlagsgesellschaft, Weinheim, Germany Vol. 6, No. 2, pgs. 152-155 (Feb. 1, 1994)
RL	C11	Xu <i>et al.</i> "Collapse of Apo- and Magnetoferritins at the Air-Water Interface," J Colloid Interface Sci, vol. 167, No. 2, pgs. 314-319 (1994)
RL	C12	Gider <i>et al.</i> "Classical and Quantum Magnetism in Synthetic Ferritin Proteins" Journal of Applied Physics, American Institute of Physics, New York, Vol. 79, No. 8, pgs. 5324-5326 (April 15, 1996)
RL	C13	Moskowitz, <i>et al.</i> "Determination of the Preexponential Frequency Factor for Superparamagnetic Maghemite Particles in Magnetoferritin," J. Geophys. Res., Solid Earth, American Geophysical Union, Vol. 102, No. B10 (1997)
EXAMINER	<i>David R.</i>	
	DATE CONSIDERED	2-24-2004

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SHEET 1 OF 1

FORM PTO - 1449 SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT	ATTORNEY DOCKET NO.: NNM-001 (7596/2) APPLICANTS: Mayes and Tyler SERIAL NO.: 09/308,166 FILING DATE: June 25, 1999 GROUP: 2754
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U.S. PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG (Y/N)

OTHER ART, JOURNAL ARTICLES, ETC.

EXAM. INIT.	OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)			
<i>Bar</i>	C14	Meldrum, "Nanoscale Synthesis in Organized Assemblies (Ferritin, Electron Transfer, Magnetotactic Bacteria)," University of Bath (United Kingdom) (1992).		

EXAMINER	<i>David R. Lee</i>	DATE CONSIDERED
		2-24-2004

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SHEET 1 OF 1

FORM PTO - 1449		ATTORNEY DOCKET NO.: NNM-001 (7596/1)	
SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT		APPLICANTS: Mayes and Tyler	
<i>MAY 17 2001 PATENT & TRADEMARK OFFICE</i>		SERIAL NO.: 09/308,166	
		FILING DATE: June 25, 1999	
		GROUP: 2754	

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U.S. PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
<i>SL</i>	A20	6,162,532	12-19-00	Black <i>et al.</i>	—	—	07-31-98

FOREIGN PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG (Y/N)
<i>SL</i>	B1	0 977 182 A2	02-02-00	EP	—	—	07-21-99		Y

OTHER ART, JOURNAL ARTICLES, ETC.

EXAM. INIT.	OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)	

EXAMINER *David R.* DATE CONSIDERED 2-24-2004



Form 1449 (Modified)

Information Disclosure
Statement By Applicant

(Use Several Sheets if Necessary)

Atty Docket No.
HASLP003
Applicant:
Mayes and Tyler
Filing Date
November 17, 1997

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Application No.
09/308,166
SEP 13 2000
TC 2700 MAIL ROOM
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U.S. Patent Documents

Examiner Initial	No.	Patent No.	Date	Patentee	Class	Sub-class	Filing Date
<i>PL</i>	A	5,574,961	11/12/96	Edelstein et al.	425	548	1/16/85
	B						
	C						
	D						
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	H						
	I						

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Foreign Patent or Published Foreign Patent Application

Examiner Initial	No.	Document No.	Publication Date	Country or Patent Office	Class	Sub-class	Translation	
							Yes	No
<i>PL</i>	J	EP0586052B1	5/7/97	EPO	HOIF	1/37	X	
	K							
	L							
	M							
	N							

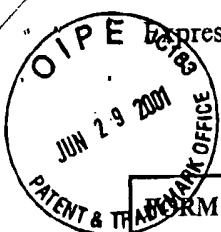
Other Documents

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
<i>PL</i>	O	Hong J. et al: "Granular Magnetic Cobalt Metal/Polymer Thin Film System," <u>IEEE Transactions on Magnetics</u> , Vol. 32, No. 5, Pages 4475-4477, September 1996
	P	
	Q	

Examiner _____ Date Considered _____

2-24-2004

Examiner: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



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SHEET 1 OF 1

FORM PTO - 1449

SUPPLEMENTAL INFORMATION
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ATTORNEY DOCKET NO.: NNM-001 (7596/1)

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U.S. PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
✓	A21	5,505,996	04-09-96	Nagayama			04-11-95
✓	A22	5,690,903	11-25-97	Hainfeld			05-30-95
✓	A23	5,766,764	06-16-98	Olli <i>et al.</i>			06-04-96
✓	A24	5,843,569	12-01-98	Kaitsu <i>et al.</i>			02-24-97

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EXAM. INIT.		DOCUMENT NUMBER	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG (Y/N)

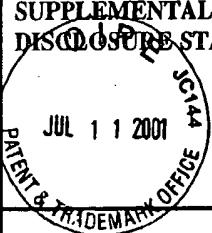
OTHER ART, JOURNAL ARTICLES, ETC.

EXAM. INIT.	OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)	
✓	C1	Meldrum <i>et al.</i> , "Magnetoferritin: In Vitro Synthesis of a Novel Magnetic Protein", Science, Vol. 257, July 24, 1992, pgs. 522-523.

EXAMINER *Quinton*

DATE CONSIDERED 2-24-2004

SHEET 1 OF 1

FORM PTO - 1449 SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT 					ATTORNEY DOCKET NO.: NNM-001 (7596/1) APPLICANTS: Mayes and Tyler SERIAL NO.: 09/308,166 FILING DATE: June 25, 1999 GROUP: 2754 <i>RECEIVED JUL 17 2001 Technology Center 2600</i>				
U.S. PATENT DOCUMENTS									
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FOREIGN PATENT DOCUMENTS									
EXAM. INIT.		DOCUMENT NUMBER	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG (Y/N)
OTHER ART, JOURNAL ARTICLES, ETC.									
EXAM. INIT.	OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)								
<i>SA</i>	C2	Ford <i>et al.</i> , "Ferritin: Design and Formation of an Iron-Storage Molecule," Phil. Trans. R. Soc. Lond. Vol. B304, No. 1121, 2/13/84, pgs. 551-565.							
	C3	Wardeska <i>et al.</i> , "Metal Ion Complexes of Apoferritin," The Journal of Biological Chemistry, Vol. 261, No. 15, 5/25/86, pgs. 6677-6683.							
	C4	Stefanini <i>et al.</i> , "On the Mechanism of Horse Spleen Apoferritin Assembly: A Sedimentation Velocity and Circular Dichroism Study," Biochemistry, Vol. 26, No. 7, 4/7/87, pgs. 1831-1837.							
	C5	Price <i>et al.</i> , "Binding of Beryllium and Other Divalent Metal Ions," The Journal of Biological Chemistry, Vol. 258, No. 18, 9/25/83, pgs. 10873-10880.							
	C6	Treffry <i>et al.</i> , "Spectroscopic Studies on the Binding of Iron, Terbium, and Zinc by Apoferritin," Journal of Inorganic Biochemistry, Vol. 21, No. 1 (1984), pgs. 9-20.							
EXAMINER <i>Don A. Rees</i>		DATE CONSIDERED 2-24-2004							



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SHEET 1 OF 2

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FORM PTS-1449

INFORMATION DISCLOSURE STATEMENT

ATTORNEY DOCKET NO.: NNM-001

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Technology Center 2800

APPLICANTS: Mayes *et al.*

SERIAL NO.: 09/308,166

FILING DATE: June 25, 1999 GROUP: 2754

U.S. PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
<i>SLR</i>	A31	3,951,904	04/20/76	Tomonaga	260	40 R	
	A32	4,009,111	02/22/77	Tamai <i>et al.</i>	252	62.55	
	A33	4,425,261	01/10/84	Stenius <i>et al.</i>	502	339	
	A34	4,452,773	06/05/84	Molday	424	1.1	
	A35	4,454,234	06/12/84	Czerlinski	436	526	
	A36	4,480,256	10/30/84	Wren	343	909	
	A37	5,062,991	11/05/91	Siiiman <i>et al.</i>	252	315.2	
	A38	5,147,841	09/15/92	Wilcoxon	502	173	
	A39	5,248,589	09/28/93	Bose <i>et al.</i>	435	2	
	A40	5,262,176	11/16/93	Palmacci <i>et al.</i>	424	9	
	A41	5,443,813	08/22/95	Hainfeld	424	1.17	
	A42	5,697,902	12/16/97	Goldenberg	604	49	
	A43	5,916,539	06/29/99	Pilgrimm	424	9.322	
	A44	6,054,495	04/25/00	Markowitz <i>et al.</i>	516	97	
	A45	6,103,868	08/15/00	Heath <i>et al.</i>	528	482	
	A46	6,254,662 B1	07/03/01	Murray <i>et al.</i>	75	348	
<i>✓</i>	A47	6,262,129 B1	07/17/01	Murray <i>et al.</i>	516	33	

FOREIGN PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG Y/N
<i>SLR</i>	B7	89/11154	11/16/89	WO					Y
	B8	98/29535	07/09/98	WO					Y
	B9	00/45171	08/06/00	WO					Y
	B10	00/71169 A2	11/30/00	WO					Y
	B11	01/74406 A2	10/11/01	WO					Y
<i>✓</i>	B12	1186 659 A1	03/13/02	EP					Y

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					SERIAL NO.: 09/308,166
					FILING DATE: June 25, 1999 GROUP: 2754

81	B13	0 049 770	04/21/82	EP						Y
	B14	0 686 448 A2	12/13/95	EP						Y
	B15	42 44 354 A1	07/01/93	DE						Y

OTHER ART, JOURNAL ARTICLES, ETC.

EXAM. INIT.	OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)		
81	C15 Huang <i>et al.</i> , Construction of a Ferritin Reactor: An Efficient Means for Trapping Various Heavy Metal Ions in Flowing Seawater", Journal of Protein Chemistry, Vol. 19, No. 6, 2000.		
	C16 Kenji <i>et al.</i> , "Nanometer-Size Structures Fabricated by Bio-Nano-Process", Abstract, Meiji University.		
	C17 Li <i>et al.</i> , "Growth of Single-Walled Carbon Nanotubes From Discrete Catalytic Nanoparticles of Various Sizes", J. Phys. Chem. B, 105, pp. 11424-11431, 2001.		
	C18 Warne <i>et al.</i> , "Self Assembled Nanoparticulate Co : Pt for Data Storage Applications", IEEE Transactions on Magnetics, Vol. 36, No. 5, September 2000.		
▼	C19 Yamashita, "Fabrication of a Two-Dimensional Array of Nano-Particles Using Ferritin Molecule", Thin Solid Films, 393, pp. 12-18, 2001.		

EXAMINER *Don A. R.*

DATE CONSIDERED

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